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PTO/SB/21 (08-03)

Approved for use through 08/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/654,643	
	Filing Date	September 5, 2000	
	First Named Inventor	Pak Shing Chau	
	Art Unit	2631	
	Examiner Name	Bayard, Emmanuel	
Total Number of Pages in This Submission	17	Attorney Docket Number	RA-194

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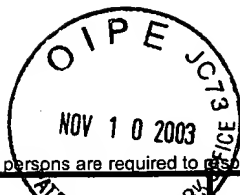
ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance communication to Technology Center (TC)
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	Return Receipt Postcard
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<input type="checkbox"/> Response to Missing Parts/Incomplete Application	Remarks	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Silicon Edge Law Group LLP - Arthur J. Behiel, Patent Attorney
Signature	
Date	October 28, 2003

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.			
Typed or printed name	Laurie Moreno		
Signature		Date	10/28/03

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/17 (10-03)

Approved for use through 07/31/2006. OMB 0651-0032

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$180.00)

Complete if Known

Application Number	09/654,643
Filing Date	09/05/00
First Named Inventor	Pat Shing Chau
Examiner Name	Bayard, Emmanuel
Art Unit	2631
Attorney Docket No.	RA-194

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METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☐ Deposit Account:Deposit Account Number
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The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Credit any overpayments☐ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1) (\$)			

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims	Fee from below	Fee Paid
Total Claims	-20** =	X	
Independent Claims	-3** =	X	
Multiple Dependent			

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	180.00
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$180.00)

SUBMITTED BY

(Complete if applicable)

Name (Print/Type)	Arthur J. Behiel	Registration No. (Attorney/Agent)	39,603	Telephone	925.621.2113
Signature		Date	October 29, 2003		

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Pak Shing Chau, Haw-Jyh Liaw, Jun Kim and Jared L. Zerbe
Assignee: Rambus, Inc.
Title: "LOW-LATENCY EQUALIZATION IN MULTI-LEVEL, MULTI-LINE COMMUNICATION SYSTEMS"
Serial No.: 09/654,643 Filed: 09/05/00
Examiner: Bayard, Emmanuel Tel: (703) 308-9573
Docket No.: RA-194 Art Unit: 2631

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SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §1.56, §1.97 and §1.98, Applicants bring the 216 documents listed on the enclosed forms PTO-1449 to the Examiner's attention in the above-captioned application. Citation of the listed documents shall not be construed as:

1. an admission that the documents are necessarily prior art with respect to the instant application;
2. a representation that a search has been made; or
3. an admission that the information cited is, or is considered to be, material to patentability as defined in §1.56(b).

11/13/2003 HVUONG1 00000034 09654643

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10-28-03
Date

Laurie Moreno

Respectfully submitted,

Arthur J. Behiel
Attorney for Applicants
Reg. No. 39,603



U.S. Department of Commerce, Patent and Trademark Office	Serial No.: 09/654,643
	Filing Date: 09/05/00
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT	First Named Inventor: Pak Shing Chau
	Group Art Unit: 2631
"Low-Latency Equalization in Multi-Level, Multi-Line Communication Systems"	Examiner Name: Bayard, Emmanuel
	Attorney Docket No.: RA-194

U.S. Patent Documents

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date, If Appropriate
	A	4,481,625	11/06/84	Roberts, et al	370	85	
	B	5,534,795	07/09/96	Wert, et al	326	81	
	C	5,534,798	07/09/96	Phillips, et al	326	108	
	D	5,663,663	09/02/97	Cao, et al	326	87	
	E	5,751,168	05/12/98	Speed, III et al	326	83	
	F	5,757,712	05/26/98	Nagel, et al	365	226	
	G	5,867,010	02/02/99	Hinedi, et al	323	282	
	H	5,973,508	10/26/99	Nowak, et al	326	81	
	I	5,986,472	11/16/99	Hinedi, et al	326	68	
	J	6,097,215	08/01/00	Bialas Jr., et al	326	68	
	K	6,140,841	10/31/00	Suh	326	60	
	L	6,160,421	12/12/00	Barna	326	63	
	M	4,748,637	05/31/88	Bishop, et al	375	7	
	N	5,254,883	10/19/93	Horowitz, et al	307	443	
	O	5,608,755	03/04/97	Rakib	375	219	
	P	5,546,042	08/13/96	Tedrow, et al	327	538	
	Q	5,194,765	03/16/93	Dunlop, et al	307	443	
	R	5,254,883	10/19/93	Horowitz, et al	307	443	

Examiner

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.



U.S. Department of Commerce, Patent and Trademark Office	Serial No.: 09/654,643
	Filing Date: 09/05/00
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT	First Named Inventor: Pak Shing Chau
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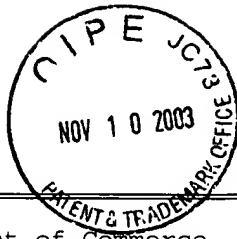
U.S. Patent Documents

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date, If Appropriate
	S	5,513,327	04/30/96	Farmwald, et al	395	309	
	T	5,023,488	06/11/91	Gunning	307	475	
	U	5,483,110	01/09/96	Koide, et al	307	147	
	V	5,287,108	02/15/94	Mayes, et al	341	156	
	W	5,977,798	11/02/99	Zerbe	329	98	
	X	RE30,182	12/25/79	Howson	325	42	
	Y	2,912,684	11/10/59	F.G. Steele	340	347	
	Z	3,051,901	08/28/62	R.E. Yaegar	325	38	
	AA	3,078,378	02/19/63	C.H. Burley, et al	307	88.5	
	AB	3,267,459	08/16/66	J.S. Chomicki, et al	340	347	
	AC	3,484,559	12/16/69	D.F. Rigby	179	18	
	AD	3,508,076	04/21/70	R.O. Winder	307	235	
	AE	3,510,585	05/05/70	R.B. Stone	325	38	
	AF	3,560,856	02/02/71	Hisashi, Kaneko	375	292	
	AG	3,569,955	03/09/71	Maniere	340	347	
	AH	3,571,725	03/23/71	Kaneko, et al	328	14	
	AI	3,587,088	06/22/71	Franaszek	340	347	
	AJ	3,648,064	03/07/72	Mukai, et al	307	213	

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U.S. Patent Documents

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date, If Appropriate
	AK	3,697,874	10/10/72	Kaneko	325	38 A	
	AL	3,731,199	05/01/73	Tazaki, et al	325	38 A	
	AM	3,733,550	05/15/73	Tazaki, et al	325	38 A	
	AN	3,753,113	08/14/73	Maruta, et al	325	38 A	
	AO	3,754,237	08/21/73	de Laage de Meux	340	347 DD	
	AP	3,761,818	09/25/73	Tazaki, et al	325	38 A	
	AQ	3,772,680	11/13/73	Kawai, et al	340	347 DD	
	AR	3,798,544	03/19/74	Norman	325	38 A	
	AS	3,832,490	08/27/74	Leonard	178	68	
	AT	3,860,871	01/14/75	Hinoshita, et al	325	38 B	
	AU	3,876,944	04/08/75	Mack, et al	325	141	
	AV	3,927,401	12/16/75	McIntosh	340	347 DD	
	AW	3,978,284	08/31/76	Yoshino, et al	178	69.5 R	
	AX	3,988,676	10/26/76	Whang	325	38 A	
	AY	4,038,564	07/26/77	Hakata	307	205	
	AZ	4,070,650	01/24/78	Ohashi, et al	340	172	
	BA	4,086,587	04/25/78	Lender	340	347 DD	
	BB	4,097,859	06/27/78	Looschen	340	347 DD	

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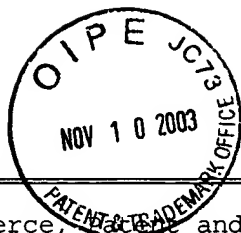
U.S. Patent Documents

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	BC	4,131,761	12/26/78	Giusto	179	15 BY	
	BD	4,181,865	01/01/80	Kohyama	307	361	
	BE	4,373,152	02/08/83	Jacobsthal	340	347	
	BF	4,382,249	05/03/83	Jacobsthal	340	347 DD	
	BG	4,403,330	09/06/83	Meyer	375	4	
	BH	4,408,135	10/04/83	Yuyama, et al	307	474	
	BI	4,408,189	10/04/83	Betts, et al	340	347 DD	
	BJ	4,528,550	07/09/85	Graves, et al	340	347 DD	
	BK	4,438,491	03/20/84	Constant	364	200	
	BL	4,571,735	02/18/86	Furse	375	20	
	BM	4,602,374	07/22/86	Nakamura, et al	375	17	
	BN	4,628,297	12/09/86	Mita, et al	340	347 DD	
	BO	4,779,073	10/18/88	Iketani	341	55	
	BP	4,805,190	02/14/89	Jaffre, et al	375	17	
	BQ	4,821,286	04/11/89	Graczyk, et al	375	4	
	BR	4,823,028	04/18/89	Lloyd	307	355	
	BS	4,841,301	06/20/89	Ichihara	341	126	
	BT	4,860,309	08/22/89	Costello	375	17	

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	BU	4,875,049	10/17/89	Yoshida	341	159	
	BV	4,888,764	12/19/89	Haug	370	85.1	RECEIVED
	BW	5,003,555	03/26/91	Bergmans	375	12	NOV 14 2003
	BX	5,045,728	09/03/91	Crafts	307	475	Technology Center 2600
	BY	5,115,450	05/19/92	Arcuri	375	7	
	BZ	5,121,411	06/09/92	Fluharty	375	20	
	CA	5,172,338	12/15/92	Mehrotra, et al	365	185	
	CB	5,191,330	03/02/93	Fisher, et al	341	56	
	CC	5,230,008	07/20/93	Duch, et al	375	19	
	CD	5,243,625	09/07/93	Verbakel, et al	375	17	
	CE	5,280,500	01/18/94	Mazzola, et al	375	17	
	CF	5,295,155	03/15/94	Gersbach, et al	375	4	
	CG	5,315,175	05/24/94	Langner	307	443	
	CH	5,331,320	07/19/94	Cideciyan, et al	341	56	
	CI	5,408,498	04/18/95	Yoshida	375	286	
	CJ	5,425,056	06/13/95	Maroun, et al	375	316	
	CK	5,426,739	06/20/95	Lin, et al	395	325	
	CL	5,438,593	08/01/95	Karam, et al	375	317	

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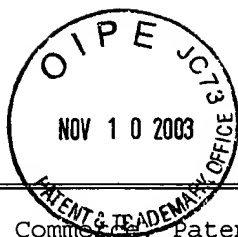
U.S. Patent Documents

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date, If Appropriate
	CM	5,459,749	10/17/95	Park	375	286	
	CN	5,471,156	11/28/95	Kim, et al	326	60	
	CO	5,473,635	12/05/95	Chevroulet	375	287	
	CP	5,525,983	06/11/96	Patel, et al	341	57	
	CQ	5,663,631	09/02/97	Kajiura, et al	322	29	
	CR	5,640,605	06/17/97	Johnson, et al	395	881	
	CS	5,684,833	11/04/97	Watanabe	375	286	
	CT	5,740,201	04/14/98	Hui	375	286	
	CU	5,793,815	08/11/98	Goodnow, et al	375	286	
	CV	5,793,816	08/11/98	Hui	375	286	
	CW	5,796,781	08/18/98	DeAndrea, et al	375	288	
	CX	5,825,825	10/20/98	Altmann, et al	375	293	
	CY	5,872,468	02/16/99	Dyke	327	72	
	CZ	5,892,466	04/06/99	Walker	341	57	
	DA	5,898,734	04/27/99	Nakamura, et al	375	287	
	DB	5,917,340	06/29/99	Manohar, et al	326	82	
	DC	5,933,458	08/03/99	Leurent, et al	375	317	
	DD	5,942,994	08/24/99	Lewiner, et al	341	56	

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	DE	5,946,355	08/31/99	Baker	375	286	
	DF	5,949,280	09/07/99	Sasaki	329	303	
	DG	5,969,579	10/19/99	Hartke, et al	332	116	
	DH	5,969,648	10/19/99	Garnett	341	56	
	DI	6,018,550	01/25/00	Emma, et al	375	317	
	DJ	6,038,260	03/14/00	Emma, et al	375	259	
	DK	6,049,229	04/11/00	Manohar, et al	326	83	
	DL	6,052,390	04/18/00	Deliot, et al	370	258	
	DM	6,067,326	05/23/00	Jonsson, et al	375	286	
	DN	6,078,627	06/20/00	Crayford	375	286	
	DO	6,048,931	04/11/00	Fujita, et al	525	67	
	DP	6,094,461	07/25/00	Heron	375	317	
	DQ	6,101,561	08/08/00	Beers, et al	710	66	
	DR	6,114,979	09/05/00	Kim	341	57	
	DS	6,122,010	09/19/00	Emelko	348	461	
	DT	6,140,841	10/31/00	Suh	326	60	
	DU	6,195,397	02/27/01	Kwon	375	288	
	DV	5,023,841	06/11/91	Akrout, et al	365	205	

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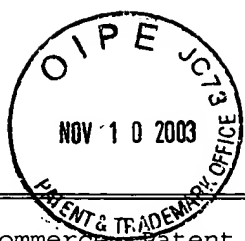
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	Group Art Unit: 2631
"Low-Latency Equalization in Multi-Level, Multi-Line Communication Systems"	Examiner Name: Bayard, Emmanuel
	Attorney Docket No.: RA-194

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*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date, If Appropriate
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	DX	5,153,459	10/06/92	Park, et al	307	452	
	DY	5,373,473	12/13/94	Okumura	365	208	
	DZ	5,508,570	04/16/96	Laber, et al	327	563	
	EA	5,734,294	03/31/98	Bezzam, et al	327	552	
	EB	6,307,824	10/23/01	Kuroda, et al	369	53.11	
	EC	4,280,221	07/21/81	Chun, et al	375	17	
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	EG	5,259,002	11/02/93	Carlstedt	375	38	
	EH	5,412,689	05/02/95	Chan, et al	375	288	
	EI	5,553,097	09/03/96	Dagher	375	240	
	EJ	5,644,253	07/01/97	Takatsu	326	35	
	EK	5,761,246	06/02/98	Cao, et al	375	287	
	EL	5,864,584	01/26/99	Cao, et al	375	244	
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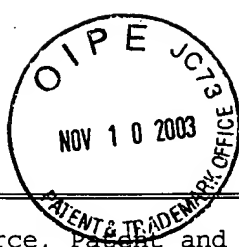
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							Translation	
		Document Number	Date	Country	Class	Subclass	Yes	No
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	FC	58-54412 (A) (cover sheet only)	03.31.83	JP	G05 F1	56	X	

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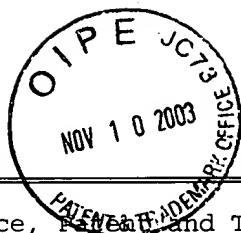
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							Translation	
		Document Number	Date	Country	Class	Subclass	Yes	No
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	FN	WO 95/31867	11/23/95	PCT CA	H04M 1	24		X
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OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

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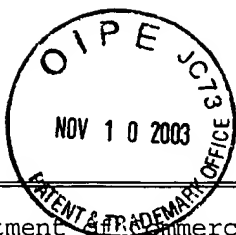
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	HL	
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